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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/225,486	01/06/1999	MITSUHIRO UCHIDA	Q52871	2417
7590	10/07/2004		EXAMINER	
SUGHRUE MION ZINN MACPEAK & SEAS 2100 PENNSYLVANIA AVENUE N W WASHINGTON, DC 200373202			HANNETT, JAMES M	
ART UNIT	PAPER NUMBER			
	2612			

DATE MAILED: 10/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/225,486	UCHIDA ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	James M Hannett	2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.

- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.

- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.

- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 25 June 2004.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 2,3,10,13,15 and 17-27 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 2,3,10,13,15 and 17-27 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 12 November 2003 is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All   b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
    Paper No(s)/Mail Date \_\_\_\_\_.

4)  Interview Summary (PTO-413)  
    Paper No(s)/Mail Date. \_\_\_\_\_.  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_\_.

***Response to Arguments***

Applicant's arguments filed July 2, 2004 have been fully considered but they are not persuasive. The applicant argues that Terashita does not teach that the average value of interest is a total average of averages and that the tricolor average corresponds to individual color averages rather than a total average. The examiner points out that on Column 17, Lines 26-27 and on Column 3, Lines 12-16 the tricolor average density is defined as  $(R+G+B)/3$  this is clearly a total average and does not correspond to a single color. Furthermore, Terashita does not refer to the tricolor average as an average of averages. However, The examiner points out that if all the Red pixels, Green pixels, and Blue pixels are averaged separately and then the three numbers corresponding to the average value for Red, Green, and Blue where averaged together the result would be equivalent to a tricolor average of summing all pixel values and dividing by the number of pixels.

The applicant argues that Saito does not teach that the characteristic value, when each of the digital image signals is composed of RGB color signals, is a value regarding chroma or color saturation of each of the digital image signals. The applicant argues that although Saito discloses obtaining and adjusting chroma, Saito does not teach or suggest extracting a value regarding chroma as a characteristic value representing a characteristic value of an image sensing device.

The examiner notes that this limitation is written broadly and that the examiner views obtaining a value of chroma as extracting a value regarding chroma. Furthermore, The examiner views the value regarding chroma as a characteristic value of an image sensing device. Saito teaches on Column 5, Lines 50-53 that the chroma information corresponds to the integration

value. Therefore, the chroma information is representative of the integration time that the camera was set at when the image was captured.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**1:** Claims 15, 17, 21, 22 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,568,194 Abe.

2: In regards to Claim 15, Abe teaches in the abstract an image processing method for carrying out white balance (image processing) on a digital image signal. Abe teaches the use of extracting the luminance signal from digital image signals from two images of subjects photographed by a digital camera. Abe further teaches the use of carrying out image processing according to the luminance value on the digital image signals to perform a white balance adjustment. Abe teaches in the abstract the use of extracting the luminance signal from digital image signals from two images of subjects photographed by a digital camera. Abe teaches on Column 3, Lines 25-44 that the luminance signal is extracted from an image wherein pixel data from an original image is divided into N blocks, each of which is composed of an 8X8 matrix of pixels. Abe teaches on Column 3, lines 59-65 that a luminance comparison function is performed that gives the difference between the luminance signals of the two images. Abe teaches that the difference is calculated by comparing a representative pixel for each block which corresponds to the average luminance value of the block. The process of taking 8X8 pixel blocks and averaging

the pixel values to obtain a single average luminance value reduces the number of pixels and is viewed as a thumbnail image. Abe teaches capturing two images and dividing each image into blocks of 8X8 pixels. Abe further teaches averaging all the pixels within a given block to obtain an average luminance value of the block. This process reduces the number of pixels in the image by a factor of 64. These thumbnail images are then compared on a pixel-by-pixel basis to obtain the luminance difference signal. Therefore, each of the thumbnail image signals (the two input images after averaging of the 8x8 blocks) comprises a reduced size image of its respective image of a plurality of images.

3: As for Claim 17, Abe teaches in the abstract the use of recording means or memory for recording the digital image signals to memory.

4: As for Claim 21, Abe teaches on Column 3, lines 59-65 each of the thumbnail image signals produces an image duplicative of its respective image of the plurality of images and having a reduced physical appearance in relation to its respective image of the plurality of images.

5: In regards to Claim 22, Abe teaches on Column 3, lines 59-65 and in the abstract that each of the plurality of images is stored as one image file. Abe teaches that the two images are captured separately and correspond to an image captured with a flash and without a flash. Therefore, it is inherent that the two images be stored separately.

6: In regards to Claim 26, Abe teaches on Column 3, lines 59-65 the digital image signals comprise the thumbnail image signals. The digital image signals are viewed as the pixels, and the pixels comprise the thumbnail image.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7: Claims 2, 3, 19, 20 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 5,767,983 Terashita.

8: As for Claim 2, Terashita teaches on Column 4, Lines 12-33 an image processing method for carrying out image processing on a digital image signal. Terashita teaches the method of extracting film characteristic data from image signals from a plurality of image frames. Terashita further teaches the use of carrying out image processing according to the characteristic value on the digital image signals. Terashita teaches on Column 7, Lines 15-66 and on Column 10, Lines 26-39 that when each of the digital image signals is composed of RGB color signals, the characteristic data is a total average of averages of the digital image signals. Terashita further teaches the method of converting RGB color signals in a digital image signal representing an image of a gray subject to be equalized, based on the total average. Terashita teaches on Column 3, Lines 5-21 an image processing method wherein an average density is multiplied by a weighting factor. Terashita teaches on Column 7, Lines 6-16 that the weight-factors can be set predetermined weighting coefficients. Terashita teaches on Column 17, Lines 26-27 and on Column 3, Lines 12-16 the tricolor average density is defined as  $(R+G+B)/3$  this is clearly a total average and does not correspond to a single color. Furthermore, Terashita does not refer to the

tricolor average as an average of averages. However, If all the Red pixels, Green pixels, and Blue pixels are averaged separately and then the three numbers corresponding to the average value for Red, Green, and Blue where averaged together the result would be equivalent to a tricolor average of summing all pixel values and dividing by the number of pixels.

9: In regards to Claim 3, Terashita teaches on Column 16, Lines 6-22 that when the digital image signals are composed of RGB color signals, photometric data for each color signal in each pixel in each of the digital image signals is calculated. Terashita teaches on Column 24, Lines 6-20 that weighting coefficients can be set respectively to characteristic data which is data from the photometric data.

10: As for Claim 19, Terashita teaches on Column 4, Lines 12-33 an image processing method for carrying out image processing on a digital image signal. Terashita teaches the method of extracting film characteristic data from image signals from a plurality of image frames. Terashita further teaches the use of carrying out image processing according to the characteristic value on the digital image signals. Terashita teaches on Column 17, Lines 26-27 and on Column 3, Lines 12-16 the tricolor average density is defined as  $(R+G+B)/3$  this is clearly a total average and does not correspond to a single color. Furthermore, Terashita does not refer to the tricolor average as an average of averages. However, If all the Red pixels, Green pixels, and Blue pixels are averaged separately and then the three numbers corresponding to the average value for Red, Green, and Blue where averaged together the result would be equivalent to a tricolor average of summing all pixel values and dividing by the number of pixels.

11: As For Claim 20, Terashita teaches on Column 4, Lines 12-33 an image processing method for carrying out image processing on a digital image signal. Terashita teaches the method

of extracting film characteristic data from image signals from a plurality of image frames.

Terashita further teaches the use of carrying out image processing according to the characteristic value on the digital image signals. Terashita teaches on Column 7, Lines 15-66 and on Column 10, Lines 26-39 that when each of the digital image signals is composed of RGB color signals, the characteristic data is a total average of averages of the digital image signals. It is viewed by the examiner that the total average of the average of all three of the color signals into a single color signal represents the brightness of the pixels. Terashita teaches on Column 17, Lines 26-27 and on Column 3, Lines 12-16 the tricolor average density is defined as  $(R+G+B)/3$  this is clearly a total average and does not correspond to a single color. Furthermore, Terashita does not refer to the tricolor average as an average of averages. However, If all the Red pixels, Green pixels, and Blue pixels are averaged separately and then the three numbers corresponding to the average value for Red, Green, and Blue where averaged together the result would be equivalent to a tricolor average of summing all pixel values and dividing by the number of pixels.

12: As for Claim 27, Terashita teaches an extracting process of obtaining the image data and an image processing process of weighting the averages these are different processes and are therefore viewed as being performed separately.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**13:** Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,568,194 Abe in view of USPN 5,682,573 Ishikawa et al.

14: As for Claim 18, Abe teaches the claimed invention as discussed in Claim 17, Abe does not teach the use of recording a flag indicating whether or not the digital image signal has been corrected after photographing in the recording medium together with the digital image signal. Abe further does not teach the method of extracting the characteristic value and performing image processing only on signals having the flag.

Ishikawa et al teaches on Column 20, Lines 35-51 a correcting operation wherein a flag indicating whether or not a digital image signal has been corrected after photographing in the recording medium together with the digital image signal. Ishikawa et al further teaches the method of extracting the characteristic value and performing image processing only on signals having the flag present.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the flag indicating method of Ishikawa et al to the signal processing method of Abe in order to allow the method of extracting the characteristic value and performing image processing only on signals having the flag present.

**15:** Claims 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,767,983 Terashita in view of USPN 5,010,393 Saito.

16: In regards to Claim 10, Terashita teaches on Column 4, Lines 12-33 an image processing method for carrying out image processing on a digital image signal. Terashita teaches the method of extracting film characteristic data from image signals from a plurality of image frames. Terashita further teaches the use of carrying out image processing according to the characteristic

value on the digital image signals. Terashita teaches on Column 16, Lines 6-22 that when the digital image signals are composed of RGB color signals, photometric data for each color signal in each pixel in each of the digital image signals is calculated. Terashita teaches on Column 16, Lines 46-55 a that the characteristic value can be a value of the photometric data relative to the tricolor average of the signals. Terashita further teaches that a table value prepared from the sets of photometric data may be used. Terashita does not teach that the characteristic value is a value regarding chroma or color saturation of each of the digital image signals.

Saito teaches on Column 1, Lines 53-68 the use of an image processing method of performing image processing on a digital signal from images taken from a digital camera. Saito teaches the use of extracting a characteristic value which is chroma information corresponding to the ratio of high-chroma colors from digital image signals obtained by photographing an object. Saito further teaches that this process provides a chroma adjusting method, therefore, carrying out image processing according to the chroma information from the digital signals. Saito teaches on Column 1, Lines 53-68 the use of extracting a characteristic value which is chroma information corresponding to the ratio of high-chroma colors from digital image signals obtained by photographing an object. Saito further teaches the method of converting the chroma of the digital image signal, based on the extracted chroma information. Saito teaches that it is advantageous to perform this signal processing method on image signals because it improves image quality.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enable the image copying apparatus of Terashita to perform the image processing method of Saito in order to provide a chroma adjusting method, therefore, carrying

out image processing according to the chroma information from the digital signals and therefore improve image quality.

17: In regards to Claim 13, Terashita teaches on Column 40, Lines 30-37 that it is preferred the characteristic value is found based on the digital image signal from which high saturation pixels have been eliminated.

18: Claims 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,767,983 Terashita.

19: As for Claims 23-25, Terashita teaches an image processing method that performs image processing on digital image signals that were scanned from film based on an extracted characteristic value from the image data. However, Terashita does not teach that the image processing can be performed based on an extracted characteristic value that corresponds to tone and sharpness.

Official notice is taken that it was well known in the art at the time the invention was made for image processing devices to extract tone and sharpness data from digital images in order to perform image processing on the image data based on tone and sharpness data in order to improve image quality.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the image processing apparatus of Terashita to extract tone and sharpness data to allow the invention of Terashita to perform image processing on the image data based on tone and sharpness data in order to improve image quality.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

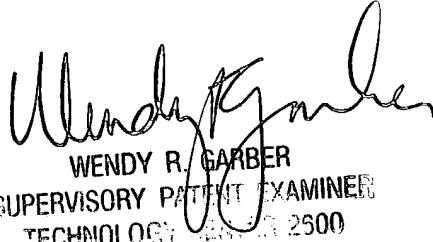
Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M Hannett whose telephone number is 703-305-7880. The examiner can normally be reached on 8:00 am to 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James M. Hannett  
Examiner  
Art Unit 2612

JMH  
September 24, 2004



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